

Claims

1. (Previously amended) In a non-Internet protocol (IP) based communications network, a system for instant voice messaging comprising:

a) an instant voice messaging (IVM) server operative to essentially simultaneously receive from an initiating user at least one voice message fragment and stream said at least one voice fragment to at least one target user; and

b) a switch coupled to said IVM server and operative to effect communications between said initiating user and each said at least one target user and said IVM server, as well as between said initiating and said at least one target users; whereby each voice message originating from said initiating user may be instantly transmitted over the non-IP based communications network to said at least one target user.

2. (Previously amended) The system of claim 1, wherein said non-IP based communication network is a telephony network, and wherein said switch is a telephony.

3. (Original) The system of claim 1, wherein said IVM server includes a fragment storage and streaming module operative to provide said essentially simultaneous reception and transmission of said at least one voice fragment.

4. (Original) The system of claim 2, wherein said telephony network is selected from the group consisting of a cellular network and a wire-line network.

5. (Original) The system of claim 4, wherein said cellular network implements a technology selected from the group consisting of a 1st generation (1G), 2nd generation (2G), 2.5 generation (2.5G), and 3rd generation (3G) cellular technology.

6. (Original) The system of claim 2, wherein said operativeness of said switch to effect

communications between each said initiating and target users and said IVM server is facilitated by an IVM number assigned to each said user.

7. (Original) The system of claim 6, wherein said IVM number is selected from the group of an individual user IVM number and a multiple target user IVM number.

8. (Previously amended) The system of claim 7, wherein each said individual user IVM number includes a session identifier and a telephone number.

9. (Previously amended) The system of claim 9, wherein said session identifier is selected from the group consisting of a prefix located before said telephone number and a suffix located after said telephone number.

10. (Original) The system of claim 9, wherein said prefix and said suffix each include a three-digit number.

11. (Previously amended) The system of claim 7, wherein said multiple target user IVM number includes, in order, an IVM session identifier, a multiple target user identifier, and a telephone number of each said at least one target user.

12. (Previously amended) The system of claim 11, wherein said IVM session identifier is a three-digit number.

13. (Original) The system of claim 2, further comprising an instant retrieval module preferably included in said IVM server and operative to provide a first smart notification to said at least one target user in case said pushing of said instant voice message fails, and a second notification to said initiating user about a status of said message.

14. (Original) The system of claim 13, wherein said status is selected from a rejection of said message by said at least one target user and acceptance of said message by said at least one target user.

15. (Original) The system of claim 14, further comprising a short messaging service center coupled to said IVM server and said switch, wherein said smart notification is selected from the group consisting of a short message service (SMS) notification and a smart caller identification (ID).

16. (Original) The system of claim 4, further comprising a presence status subsystem coupled to said IVM server and operative to provide a status parameter of said at least one target user.

17. (Original) The system of claim 16, wherein said presence status subsystem is selected from the group of a presence status module included in said IVM server and an external presence status server coupled to said IVM server.

18. (Original) The system of claim 17, wherein said cellular network is a global system for mobile communications (GSM) network, and wherein said presence status server is further coupled to a home location register.

19. (Original) The system of claim 2, further comprising a paging system selected from the group consisting of a text paging system and a voice paging system, said paging system coupled to said IVM server, wherein said IVM server further includes

i. a voice recognition module operative to convert voice messages into voice paging messages, and

ii. a text-to-speech recognition module operative to convert voice messages into text messages, and wherein said paging system is operative to communicate said voice paging messages and said text messages to a pager belonging to said at least one target user.

20. (Original) The system of claim 2, further comprising a push-to-talk (PTT) module included in said IVM server and operative to facilitate instant voice messaging between said initiating user and said at least one PTT target user

21. (Previously amended) A method for relaying an instant voice message from an initiating

user to at least one target user over a non-Internet protocol (IP) based communications network, comprising the steps of:

- a) at an instant voice messaging (IVM) server, receiving at least one voice message fragment from an initiating user; and
- b) essentially simultaneously with said step of receiving, streaming said at least one voice fragment to at least one target user.

22. (Previously amended) The method of claim 21, wherein said step of receiving at least one voice message fragment from an initiating user includes

- i. providing a switch coupled to the IVM server and operative to effect communications between each said initiating and target users and said IVM server, as well as between said initiating user and said at least one of target user;
- ii. providing a unique instant voice messaging (IVM) number to each target user, and
- iii. accessing said IVM server,

and wherein said step of streaming said at least one voice fragment to at least one target user, until the ~~entire~~ instant voice message is relayed to said at least one target user includes

- iv. at said IVM server, starting to record and store fragments of said instant voice message while accessing said target user.

23. (Previously amended) The method of claim 22, further comprising the steps of:

- c) if said at least one target user answers said IVM server, streaming already stored fragments of said instant voice message to said at least one target user until said instant voice message is transmitted; or
- d) if said at least one target user does not answer said IVM server, processing said instant voice message at the IVM server according to predetermined rules.

24. (Previously amended) The method of claim 23, wherein said at least one target user is a single target user, and wherein said step of providing an IVM number to said single target user includes providing an individual two-part number that includes an IVM session identifier and a telephone number that uniquely identifies said target user.

25. (Previously amended) The method of claim 23, wherein said at least one target user includes a plurality of target users, and wherein said step of providing an IVM number to said plurality of target users includes providing a three-part, multiple target user number that includes an IVM session identifier, a multiple target user identifier, and a telephone number of each of said target users.

26. (Original) The method of claim 23, wherein said step of streaming already stored fragments is followed by an operation selected from the group of, by said at least one target user, moving to full-duplex session with said initiating user and further processing said instant voice message.

27. (Original) A method for instant retrieval of a voice message sent from an initiating user to a target user through an instant voice messaging (IVM) server, comprising the steps of:

- a) by the target user, receiving a smart notification from the IVM server that said target user is provided with a particular instant voice message; and
- b) by said target user, directly accessing said particular message.

28. (Original) The method of claim 27, wherein said step of receiving a smart notification includes receiving a notification selected from the group consisting of a caller ID notification and a short message service (SMS) notification.

29. (Original) The method of claim 28, wherein said step of receiving a caller ID notification further includes receiving a notification comprising an access code to an IVM instant retrieval module, a unique identification code for said particular instant voice message, and a message type.

30. (Original) The method of claim 29, wherein said message type is selected from the group consisting of an instant voice message, a voice-mail, a multi-media service message and a unified message.

31. (Original) The method of claim 27, wherein said step of directly accessing said particular message includes accessing said message while said message is being sent by an initiating user.

32. (Original) The method of claim 27, wherein said step of directly accessing said particular message includes accessing said message after said message has been sent in its entirety by an initiating user.

33. (Previously amended) An instant voice messaging (IVM) server positioned in a non-Internet protocol (IP) based communications network and comprising:

- a) a mechanism for receiving at least one voice message fragment from a first user and for essentially simultaneously streaming said at least one voice message fragment to at least one second user; and

- b) a communication mechanism to communicate with said first user and said at least one second user.

34. (Original) The IVM server of claim 33, wherein said mechanism for reception and essentially simultaneous streaming of said at least one voice fragment includes a fragment streaming and storage module operative to recognize the format of said voice message and to save said message in fragments of a given size.

35. (Original) The IVM server of claim 33; further comprising an instant retrieval module operative to provide a smart notification to said at least one second user that said instant voice message is being sent to said at least one second user.

36. (Previously amended) In a non-Internet protocol (IP) based communications network, a system for instant voice messaging comprising:

- a) an instant voice messaging (IVM) server operative to essentially simultaneously receive from an initiating user having an initiating user handset at least one voice message

fragment and stream said at least one voice fragment to at least one target user having a respective target user handset;

b) a switch coupled to said IVM server and operative to effect communications between said initiating user and each said at least one target user and said IVM server, as well as between said initiating and said at least one target users; and

c) a mechanism included in each said handset for allowing a one-push access to said server for sending or listening to said voice message, whereby each voice message originating from said initiating user may be instantly transmitted over the non-IP based communications network to said at least one target user.

37. (Original) The system of claim 36, wherein said mechanism includes at least one button, and wherein said one-push operation includes activation of said at least one button.

38. (Original) The method of claim 27, wherein said step of accessing said particular message includes directly dialing a prefix of said particular message.

39. (Original) The method of claim 27, wherein said step of accessing said particular message includes, by said target user, directly pushing a dial or call button on a telephony handset, while looking at a certain missed message notification.

40. (Original) The method of claim 27, further comprising the step of, by said IVM server, pushing said particular message to said target user.

41. (Original) The method of claim 40, wherein said particular message includes an unheard message, and wherein said step of pushing includes sending said unheard message as a message selected from the group consisting of an IVM, a voice mail message, a multimedia service message, a unified message, a fax message and a push to talk message.

42. (Original) The system of claim 36, wherein said IVM server optionally includes a smart charging module operative to provide smart charging for actions effected through said IVM server.

43. (Original) The system of claim 37, wherein at least one of said handsets is a special handset, and wherein said at least one button is a dedicated button.

44. (Original) The system of claim 43, wherein said dedicated button is selected from the group consisting of a dedicated IVM button, a dedicated short message service (SMS) button and a dedicated push-to-talk (PTT) button.

45. (Previously amended) A method for retrieving an instant voice message sent from an initiating user to a target user over a communications network, comprising the steps of:

- a) receiving a smart short message service (SMS) notification of the instant voice message, the SMS including a specific number associated with the instant voice message; and
- b) dialing directly the specific number to instantly retrieve the instant voice message.

46. (Original) The method of claim 45, wherein the specific number includes a telephone number.

47. (Original) The method of claim 45, wherein the specific number includes at least one digit.

48. (Original) The method of claim 45, wherein the specific number includes at least one digit and a prefix.

49. (Original) The method of claim 45, wherein the specific number includes a prefix, at least one digit and a suffix.

50. (Previously amended) The method of claim 45, wherein the step of receiving includes receiving the smart SMS notification from an instant voice messaging (IVM) server and wherein the step of directly dialing the specific number includes directly dialing the IVM server using the specific number.